

Claims

What is claimed is:

1. A method of operating an information handling system (IHS) including a switching power supply, the method comprising:
storing energy in a load dependent inductor exhibiting an inductance which increases as current through the inductor decreases;
supplying energy from the load dependent inductor to switches in the switching power supply to achieve zero voltage switching of the switches; and
providing energy from the switching power supply to power the IHS.
2. The method of claim 1 wherein the load dependent inductor is driven by first and second switches arranged in a complementary switching configuration.
3. The method of claim 2 wherein the first and second switches are switching transistors.
4. The method of claim 1 wherein the load dependent inductor includes a non-constant gap.
5. The method of claim 1 wherein the load dependent inductor includes a substantially C-shaped core with a non-constant gap.
6. The method of claim 1 wherein the load dependent inductor includes a substantially E-I shaped core with a non constant gap.

7. A method of operating a switching power supply comprising:
 - storing energy in a load dependent inductor which exhibits an inductance that increases as current through the inductor decreases;
 - supplying energy from the load dependent inductor to switches in the switching power supply to achieve zero voltage switching of the switches; and
 - providing energy from the switching power supply to an output.
8. The method of claim 7 wherein the load dependent inductor is driven by first and second switches arranged in a complementary switching configuration.
9. The method of claim 8 wherein the first and second switches are switching transistors.
10. The method of claim 7 wherein the load dependent inductor includes a non-constant gap.
11. The method of claim 7 wherein the load dependent inductor includes a substantially C-shaped core with a non-constant gap.
12. The method of claim 7 wherein the load dependent inductor includes a substantially E-I shaped core with a non constant gap.

13. An information handling system (IHS) comprising:
 - a processor;
 - a memory coupled to the processor;
 - a power input coupled to the processor and the memory;
 - a switching power supply coupled to the power input, the switching power supply including:
 - a load dependent inductor for storing energy, the load dependent inductor exhibiting an inductance which increases as current through the inductor decreases; and
 - first and second switches arranged in complementary configuration, the load dependent inductor supplying energy to the first and second switches to achieve zero voltage switching of the first and second switches.
14. The IHS of claim 13 wherein the load dependent inductor is driven by first and second switches arranged in a complementary switching configuration.
15. The IHS of claim 14 wherein the first and second switches are switching transistors.
16. The IHS of claim 13 wherein the load dependent inductor includes a non-constant gap.
17. The IHS of claim 13 wherein the load dependent inductor includes a substantially C-shaped core with a non-constant gap.
18. The IHS of claim 13 wherein the load dependent inductor includes a substantially E-I shaped core with a non constant gap.

19. A zero voltage switching power supply including:
 - a load dependent inductor for storing energy, the load dependent inductor exhibiting an inductance which increases as current through the inductor decreases; and
 - first and second switches arranged in complementary configuration, the load dependent inductor being coupled to the first and second switches, the load independent inductor supplying energy to the first and second switches to achieve zero voltage switching of the first and second switches.
20. The zero voltage switching power supply of claim 19 wherein the first and second switches are switching transistors.
21. The zero voltage switching power supply of claim 19 wherein the load dependent inductor includes a non-constant gap.
22. The zero voltage switching power supply of claim 19 wherein the load dependent inductor includes a substantially C-shaped core with a non-constant gap.
23. The zero voltage switching power supply of claim 19 wherein the load dependent inductor includes a substantially E-I shaped core with a non constant gap.